Sales comparative :

- New **KX080-4α** KX080-4 versus
- New **KX080-4α** versus:
  - Takeuchi TB290
  - JCB 86C1
  - Hitachi ZX85

Background

Background of new development

Market demand:

- Improve simultaneous operation with attachments
- Improve simultaneous operation during travel mode with attachments
- Improve front attachment speed in ECO mode

Kubota answer to market:

- We have developed **new Kubota KX080-4α** mainly focusing on improvements in front attachments performance
- Today the **new Kubota KX080-4α** answer all these demand from the market

KX080-4α improvements versus KX080-4

- New LS HYD pump 2 pumps (versus 3 before)
- New main control valve (travel and work with accessory)
- Floating blade function (more versatility)
- Bigger idler (les vibrations)
- New counter weight design (standard CW 1000 kg / add. CW +200 kg)
- New bonnet design (better recognizability)
- New automatic refilling such point with little hoses diameter (easy handling)
- New tie-downs points (best and easy transport in security)
- New lockable tool box (more storage space)
- Additional bracket for an additional rotating beacon (ready for option)
- New ECO mode setting (better performance)
- Large water separator (more safety and durability for the engine)

Performance

KX080-4α operating weight

Model version			Mono boom		2pcs boom	
			KX080-4	NEW KX080-4α	KX080-4	NEW KX080-4α
Operating Weight		kg	8270	**8315**	8775	**8835**
Engine	Name	Kubota	V3307-CR-TE4	←	←	←
	Performance	kW	46,5	←	←	←
	RPM		2000	←	←	←
	Displacement	ℓ	3,331	←	←	←
Pump	HYD System		variable x2+gear x1	**variable x2**	variable x2+gear x1	**variable x2**
	Flow Rate	ℓ /min	72 x2+66.6	**84.6x2**	72 x2+66.6	**84.6x2**
AUX1	Max. Flow Rate	ℓ /min	100	←	←	←
	Hydraulic pressure	Mpa	20,6	←	←	←
AUX2	Max. Flow Rate	ℓ /min	66,6	←	←	←
	Hydraulic pressure	Mpa	20,6	←	←	←

Note:

- *Catalogue data(long arm 2100mm, rubber crawler)*

KX080-4α working range

Model version		Mono boom		2pcs boom	
		KX080-4	NEW KX080-4α	KX080-4	NEW KX080-4α
Overall Length	mm	6450	←	6930	←
Overall Height	mm	2540	←	←	←
Overall Width	mm	2200	←	←	←
Max. Digging Height	mm	7300	←	8240	←
Max. Digging Depth	mm	4600	←	4590	←
Max. Digging Radius	mm	7330	←	7820	←

Note:

- *No change about machine size and working range*
- *Catalogue data(long arm 2100mm, rubber crawler)*

KX080-4α cylinder speed

Model version			Mono boom		2pcs boom	
			KX080-4	NEW KX080-4α	KX080-4	NEW KX080-4α
Boom Speed (up/down)		sec	3.2/3.6	**2.9/3.2**	4.0/4.1	**3.5/4.0**
Arm Speed (crowd/dump)		sec	3.3/3.2	**3.4/3.0**	3.3/3.2	←
Bucket Speed (crowd/dump)		sec	3.4/2.3	**3.1/2.2**	3.4/2.3	←
Swing Speed (L/R)		sec	7.0/7.0	**7.3/7.2**	7.0/7.0	←
Dozer Speed (up/down)		sec	2.3/3.0	**2.4/3.1**	2.3/3.0	←
Swivel Speed		rpm	9,5	**10,2**	9,5	**10,2**
Travel Speed	1st	km/h	2,70	**2,70**	2,70	**2,70**
	2nd	km/h	4,90	**4,80**	4,90	**4,80**
Traction Force	1st	kN	72,0	**67,0**	72,0	←

Note:

- *Single speed and especially boom speed has been improved*
- *Speed, detected during the comparison with competitors*

KX080-4α lifting, stability and breakout force

Model version			Mono boom		2pcs boom	
			KX080-4	NEW KX080-4α	KX080-4	NEW KX080-4α
Lifting Force		kg	1733	1733	1733	1733
Static Stability Front		kg	1408	1412	1228	1232
Static Stability Side		kg	1059	1078	884	903
Breakout Force	Bucket	kN	65,20	←	←	←
	Arm	kN	38,10	←	←	←
Noise	Operator Dynamic (L/R)	dB(A)	75	75	75	75

Lifting:

Quick coupler:	83 kg
Bucket:	225 kg
Connection:	31 kg
Weight:	750 kg
Tot .:	**1089 kg**

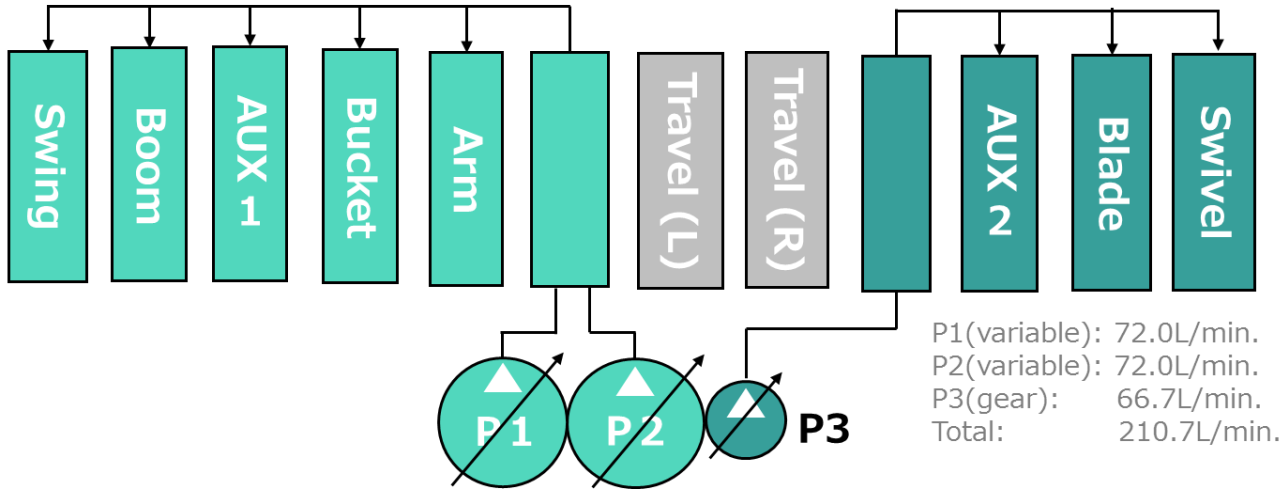
Note:

- *Stability is almost same as current KX080-4*

Technical improvements

3 pumps LS system, versus 2 pumps LS system (simultaneous operation)

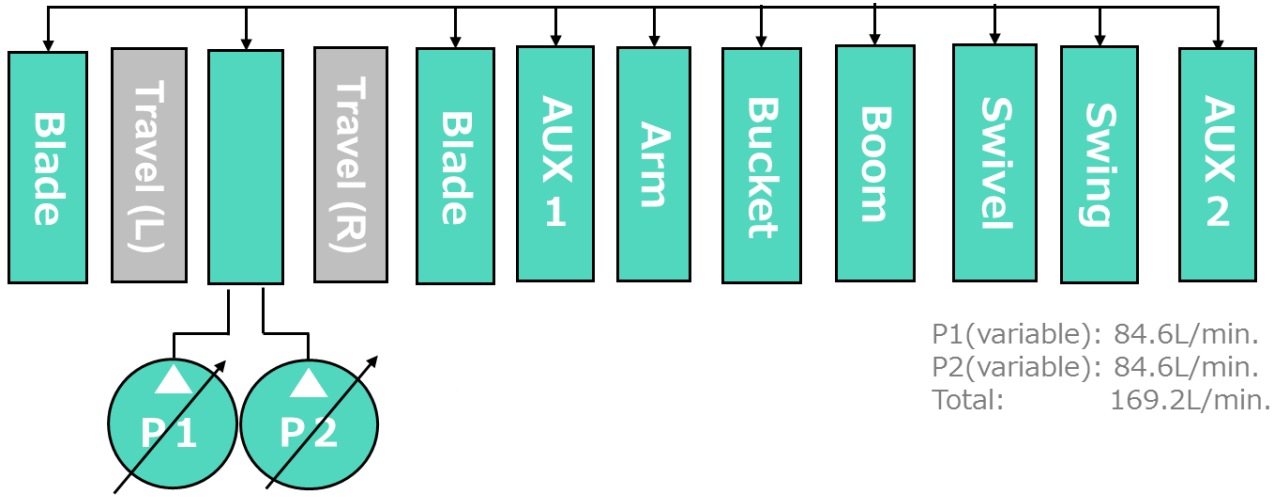
KX080-4



3 pumps Load Sensing System:

- Simultaneous operation

KX080-4α

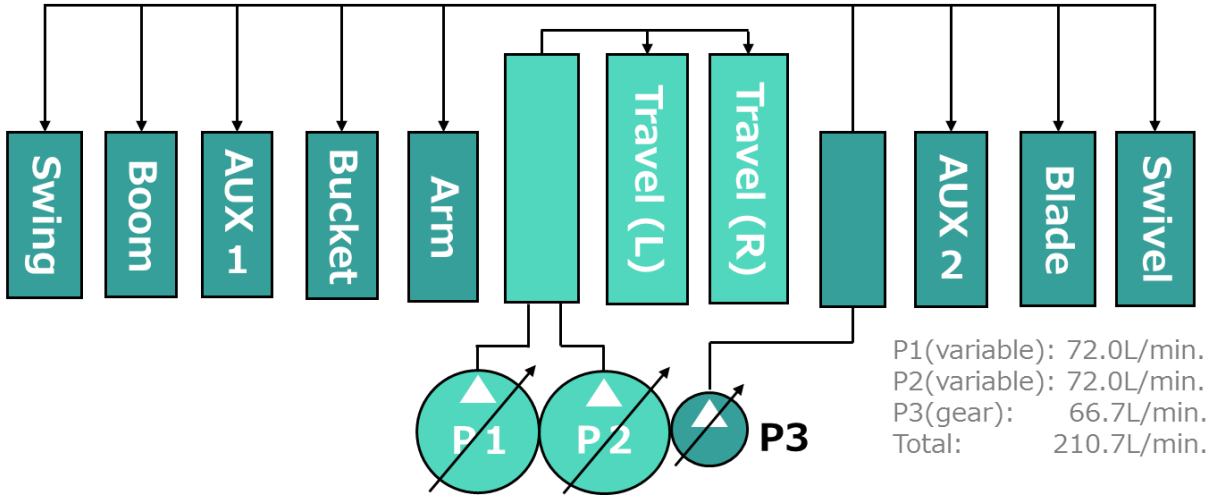


2 pump Load Sensing System:

- Simultaneous operation

3 pumps LS system, versus 2 pumps LS system (simultaneous operation)

KX080-4



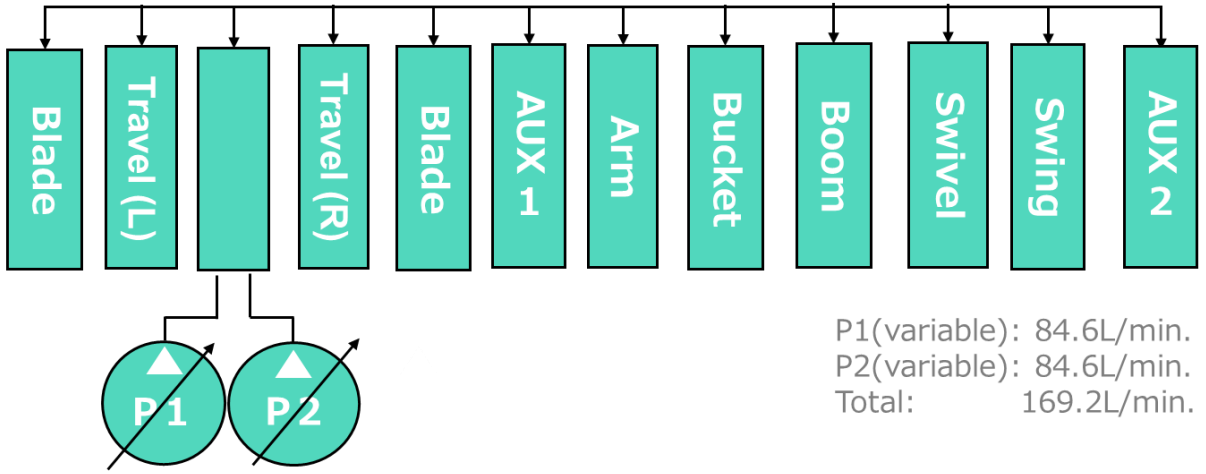
3 pumps Load Sensing System:

- Simultaneous operation
- + Traveling

Note:

P3 moves all sections except traveling

KX080-4α



2 pump Load Sensing System:

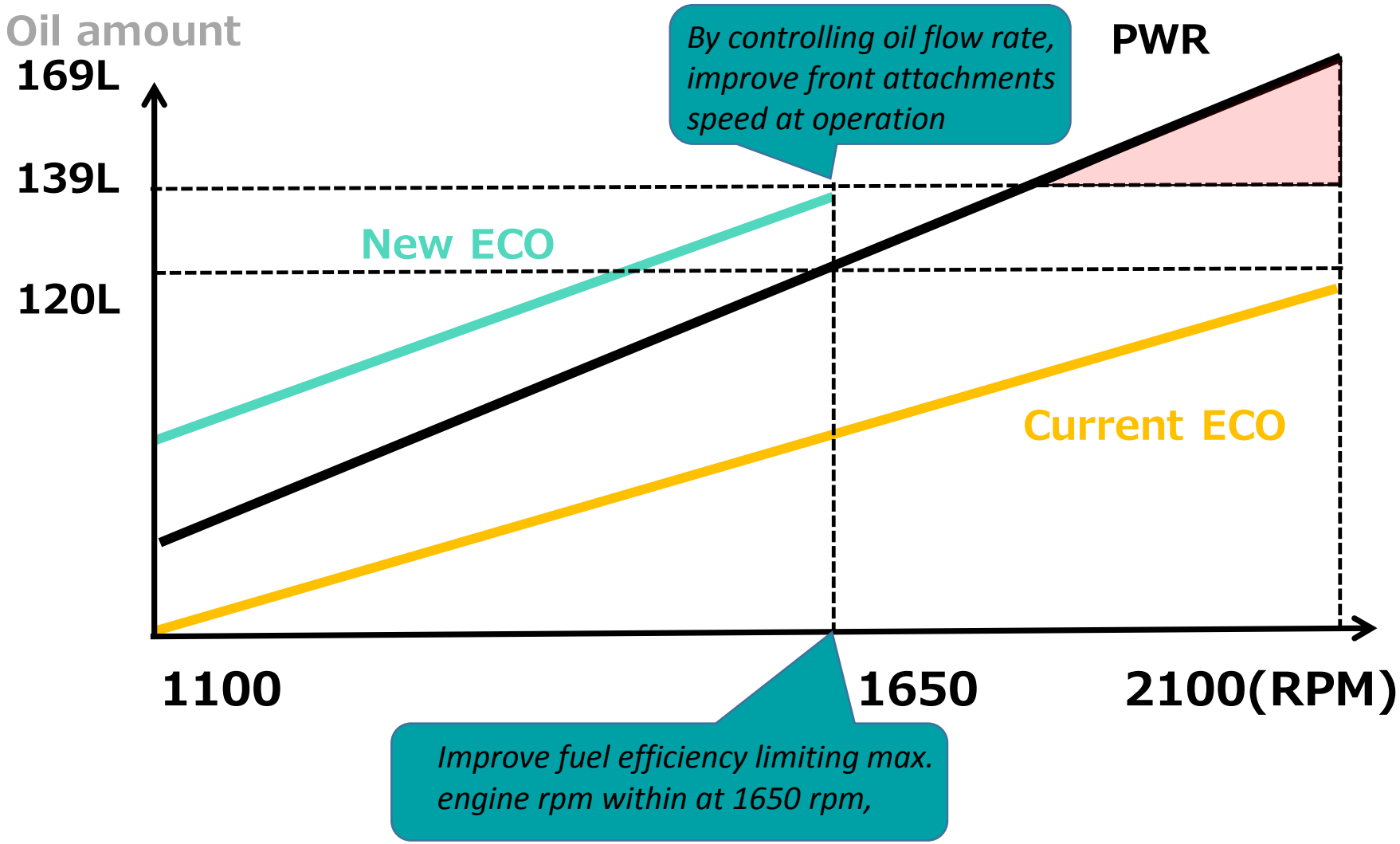
- Simultaneous operation
- + Traveling

Note:

P1 & P2 moves all sections included traveling

ECO Mode

ECO Mode


Oil amount
169L
139L
120L
PWR
By controlling oil flow rate, improve front attachments speed at operation
New ECO
Current ECO
1100
1650
2100(RPM)
Improve fuel efficiency limiting max. engine rpm within at 1650 rpm,

Design

Counter weight and bonnet

Previous model

New rear bonnet design

New counter weight design (1000 kg)

Additional counter weight available (200 kg)

Tool box and tie down points

Tool box was added

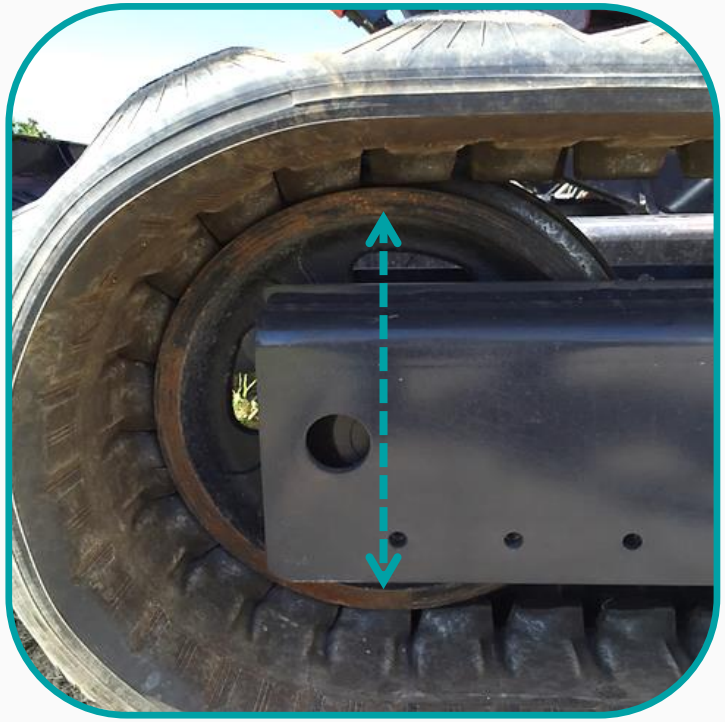
2 tie down points were added on swivel frame

2 tie down points are in the down frame

Large water separator and bigger idler diameter

A large water separator was adopted

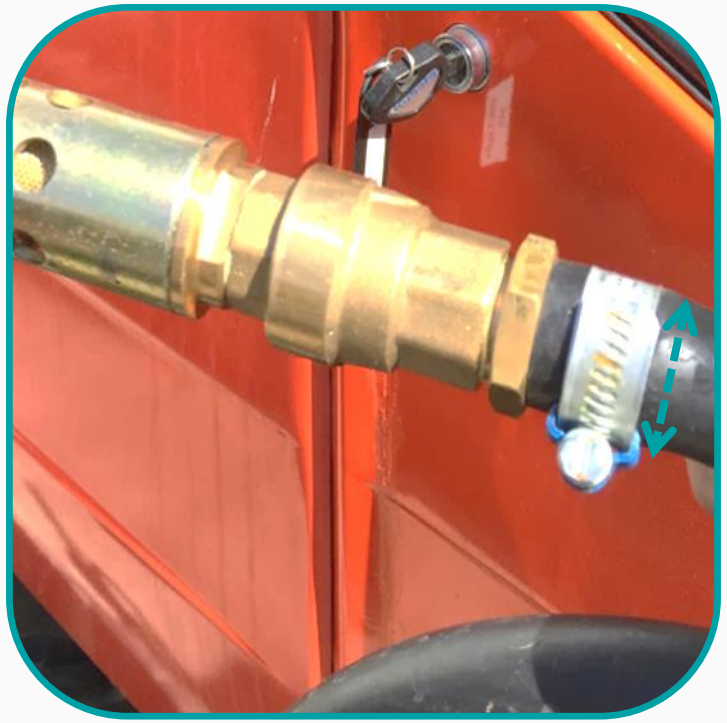
Engine protection increased



Idler diameter enlarged (*only for rubber crawler*)

Reduction of vibrations

Hose refueling and additional beacon bracket



Diameter of the supply hose, smaller

More easy handling

Additional bracket for 2nd beacon light

Floating blade

Floating blade function

The blade have the floating function

In this position the blade follows the land

Pushing forward the blade lever that goes into the floating position

Comparison with competitors machines

Arranged machines info

Model version		KUBOTA KX080-4α	TAKEUCHI TB290	JCB 86C1	Hitachi ZX85
					
Product year		2016	2016	2016	2016
Tail swing		Short Tail	Conventional	Short Tail	Short Tail
Crawler		Rubber	Rubber	Rubber	Rubber Pad (GEO GRIP)
Operating Weight	kg	8315	8490	8600	8520
Arm	mm	2100(long)	1960(middle)	1650(short)	2120(long)
Bucket	mm	800	800	800	800
QC		mecha	mecha	mecha	mecha
	kg	88	75		90

Competitor's machines (*catalogue data*)

Model name			KUBOTA KX080-4α	TAKEUCHI TB290 *(middle arm version)*	JCB 86C1 *(short arm version)*	Hitachi ZX85 *(pad crawler version)*
Operating Weight		kg	8315	8490	8600	8520
Engine	Name		Kubota V3307-CR-TE4	Yanmar 4TNV98CT-WTBZ	Kohler KDI 2504 TCR	Yanmar 4TNV94L
	Performance	kW	46,5	49,6	45,4	34,1
	RPM		2000	2000	2200	2000
	Displacement	/ ℓ	3,331	3,318	2,5	3,053
	DPF		Yes	Yes	DOC	No
Tail Swing			Short tail	Conventional	Short tail	Short tail
Pump	System		variable 2	variable 2	variable 1	variable 3
	Flow Rate	ℓ /min	84.6x2	160+60.6	158,4	72x2+56
ECO Mode			yes	yes	yes	yes

Conditions: *(rubber crawler, long arm)*

Competitor's machines dimension & working range (*catalogue data: rubber crawler, long arm*)

Model name		KUBOTA KX080-4α	TAKEUCHI TB290 *(middle arm version)*	JCB 86C1 *(short arm version)*	Hitachi ZX85 *(pad crawler version)*
Rear Swing Radius	mm	1460	1650	1490	1490
Overhang	mm	360	550	340	360
Overall Length	mm	6410/6450	6660	6435	6640/6820
Overall Height	mm	2540	2550	2706	2530
Overall Width	mm	2200	2200	2300	2260
Max. Digging Height	mm	7060/7300	*7290*	6848/7181/7293	6790/7140
Max. Dumping Height	mm	5010/5250	*5135*	5061/5395/5506	4770/5080
Max. Digging Depth	mm	4250/4600	*4410*	3922/4372/4522	3990/4510
Max. Digging Radius	mm	7010/7330	*7295*	6815/7244/7387	7210/7700

KX080-4α has:

- Better global working range(digging height, digging depth)
- The less width machine in its class

Note:
Black character *= catalogue data*
Red character *= actually measured data*

Dozer - bucket distance

Dozer – bucket distance:

130 mm

Dozer – bucket distance:

230 mm

Dozer – bucket distance:

380 mm

Dozer – bucket distance:

880 mm

KX080-4α's:

- The best dozer-bucket distance

Cylinders, speed and force

Model name			KUBOTA KX080-4α	TAKEUCHI TB290 *(middle arm version)*	JCB 86C1 *(short arm version)*	Hitachi ZX85 *(pad crawler version)*
Breakout Force	Bucket	kN	65,2	53,7	57,1	55,0
	Arm	kN	38,1	37,9	49,9	32,0
Boom Speed (up/down)		sec	2.99/3.30	2.80/3.38	3.48/3.56	2.96/3.07
Arm Speed (up/down)		sec	3.52/3.30	3.39/3.07	3.06/2.97	2.37/2.10
Bucket Speed (crowd/dump)		sec	3.14/2.23	3.58/2.42	2.35/1.90	3.66/2.32
Swing Speed (L/R)		sec	6.74/7.33	7.60/7.59	7.81/7.55	6.80/6.83
Dozer Speed (up/down)		sec	2.31/2.94	2.83/2.76	2.29/2.74	1.51/1.46

KX080-4α's:

- The best bucket breakout force
- The better total balance

Note:
Black character *= catalogue data*
Red character *= actually measured data*

Stability and swivel / travel speed

Model name			KUBOTA KX080-4α	TAKEUCHI TB290 *(middle arm version)*	JCB 86C1 *(short arm version)*	Hitachi ZX85 *(pad crawler version)*
Swivel speed		rpm	10,1	10,6	8,7	10,8
Travel speed	1st	km/h	2,7	2,8	2,6	3,1
	2nd	km/h	4,82	5,31	4,92	4,95
Static Stability Front		kg	1422	1262	1672	1216
Static Stability Side		kg	1064	1083	1308	1012

KX080-4α's:

- A good speed of rotation and translation
- A very good ratio between lifting power and dimensions

Note:
Black character *= catalogue data*
Red character *= actually measured data*

Lifting force

Model name		KUBOTA KX080-4α	TAKEUCHI TB290 *(middle arm version)*	JCB 86C1 *(short arm version)*	Hitachi ZX85 *(pad crawler version)*
Operating mass	kgf.m	8315	8400	8520	8600
Front	kgf.m	7280,6	6762,4	6860,7	7858,4
Rear	kgf.m	7811,9	7833,3	8201,3	8517,8
Side	kgf.m	5639,2	5859	5834,8	6317,6

Notes lifting force:

***Front**: Data calculated from the center of the idler to 1m*

***Rear**: Data calculated from the center of the sprocket to 1m*

***Side**: Data calculated from the edge of crawler to 1m*

KX080-4α's:

- A very good ratio between lifting power and dimensions (mass)

Doors

KUBOTA KX080-4α

Entrance door with solid and resistant structure

Two glass

TAKEUCHI TB290

One large glass

Door without central structure

JCB 86C1

Entrance door with solid structure

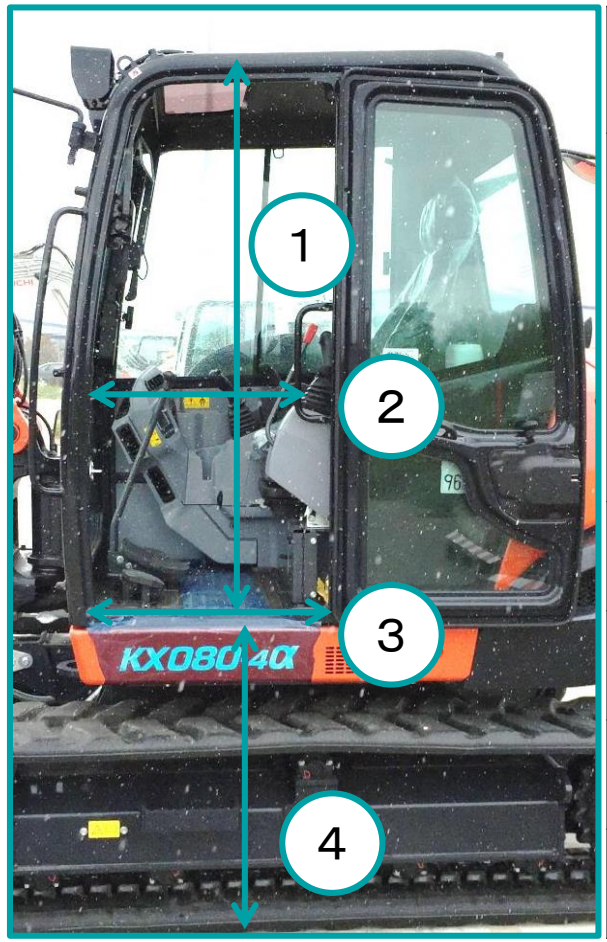
Two glass

Hitachi ZX85

No metal structure.

One big glass

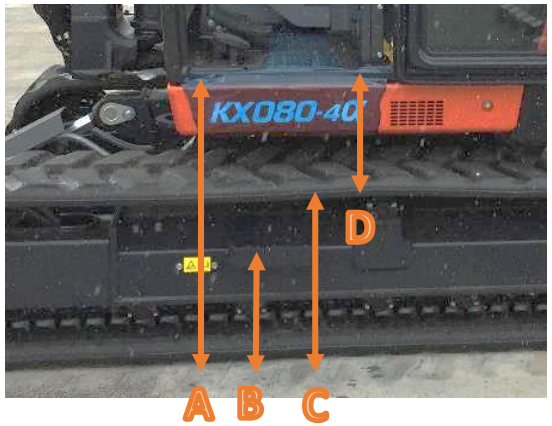
Cabin entrance space



Model name			Kubota KX080-4α	TAKEUCHI TB290	JCB 86C1	Hitachi ZX85
						
①	Height	mm	1460	1520	1500	1500
②	Distance at 1000mm	mm	490	500	470	445
③	Bottom	mm	650	610	540	665
④	Entrance height	mm	955	950	1080	950

KX080-4α's:
- KX080-4α's cabin entrance space is It is very well made
- The door is wide and regular

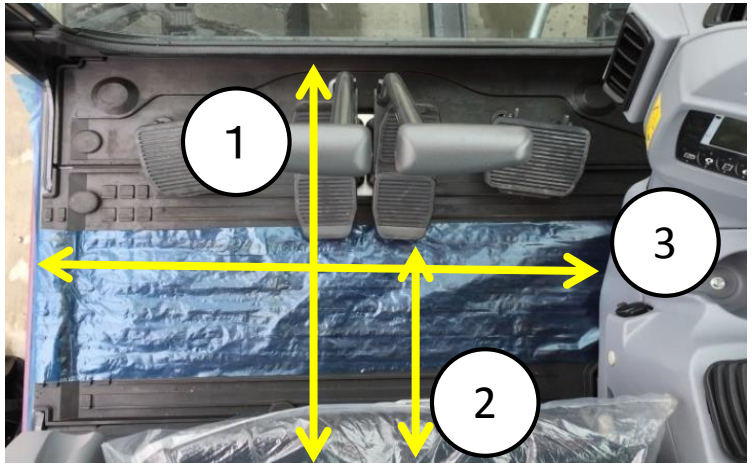
Entry steps



Model name	KUBOTA KX080-4α	TAKEUCHI TB290 *(middle arm version)*	JCB 86C1 *(short arm version)*	Hitachi ZX85 *(pad crawler version)*
A	995	940	1085	950
B	385	430	410	Not present
C	600	650	654	700
D	355	305	445	310

KX080-4α's:
- The best access
- The better distribution of the steps
- A very good location of the handles

Cabin foot space



				Kubota	TAKEUCHI	JCB	Hitachi
				KX080-4α	TB290	86C1	ZX85
							
①	Length	Seat support ~ cabin frame	mm	615 ○	635 ○	570 ×	510 ×
②	Length	Seat support ~ travel lever	mm	295 △	360 ○	290 △	270 ×
③	Width	Entrance ~ RH wall	mm	940 ○	950 ○	940 ○	880 △

KX080-4α's:
- Compared with JCB and Hitachi, KX080-4α has larger foot space
- But TB290 is the best

○	Above average
△	In the average
×	Below average

Easy job options

Model name	KUBOTA KX080-4α	TAKEUCHI TB290	JCB 86C1	Hitachi ZX85
Auto Shift	yes	no	OPT	no
Auto Idle	yes	yes	yes	yes
Anti Theft	yes	no	no	yes
Dozer Float	yes	no	OPT	no
Refueling Pump	yes	yes	OPT	yes

KX080-4α's:

- All of these options in standard
- Takeuchi and Hitachi don't have auto shift function

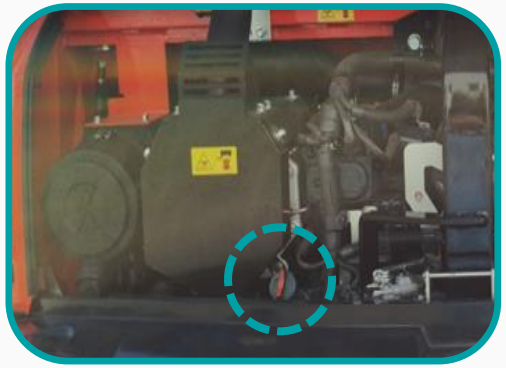
Additional functions

Model name	KUBOTA KX080-4α	TAKEUCHI TB290	JCB 86C1	Hitachi ZX85
Cabin	ROPS/OPG	ROPS/OPG	-	ROPS/OPG
A/C	yes	yes	OPT	yes
Digital Panel	yes	yes (color)	yes (color)	yes (color)
Arm Rest	yes(adjustable)	yes(adjustable)	yes	yes(adjustable)
Rearview Mirror	yes	yes	no	yes
Rear View Camera	no	OPT	OPT	OPT
Radio	OPT	OPT	OPT	OPT
Cup Holder	yes	yes	yes	yes

KX080-4α's:

- The KX080-4a does not have a rear camera
- The cameras installed in the competing machines are unusable in bright or low light situations

Engine oil refill

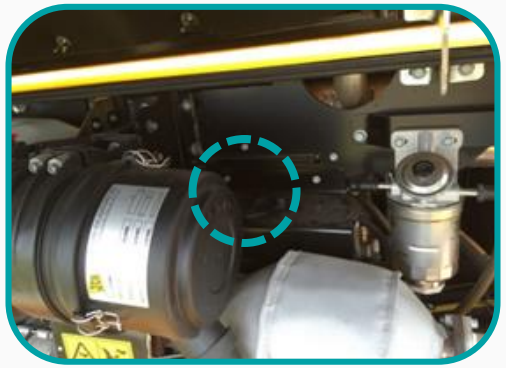


KUBOTA KX080-4α

The best position

TAKEUCHI TB290

Not bad but a little more difficult to reach



JCB 86C1

Engine oil tank cap is located deep inside the bonnet.

Difficult to access it.

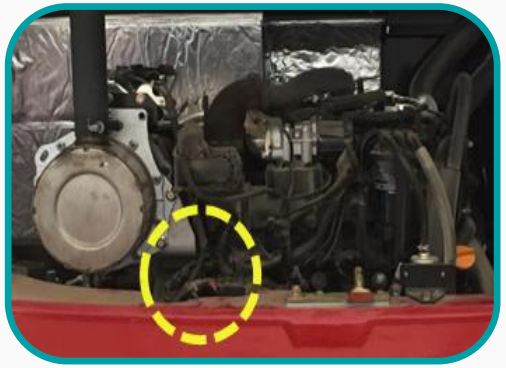
Hitachi ZX85

Placed too high and too internal

Engine oil level check

KUBOTA KX080-4α

The best position



TAKEUCHI TB290

Not bad but a little more difficult to reach

JCB 86C1

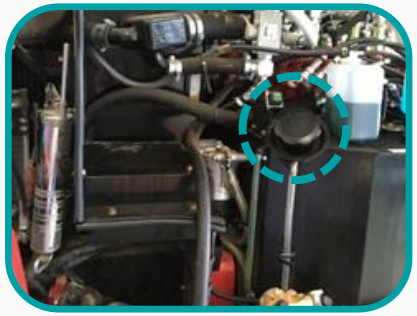
Engine oil level check cap is located inside the bonnet

Hitachi ZX85

Placed too high and too internal

Difficult to access it.

Refueling



KUBOTA KX080-4α

Fuel inlet is located in a good position.

Refueling hose have a good length

TAKEUCHI TB290

Fuel inlet is located in a good position.

Refueling hose have a good length

JCB 86C1

Fuel inlet is located in a good position.

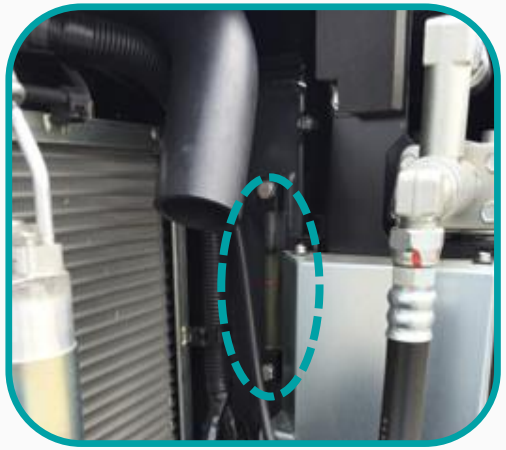
Refueling hose have a good length

Hitachi ZX85

Fuel inlet is located at high position.

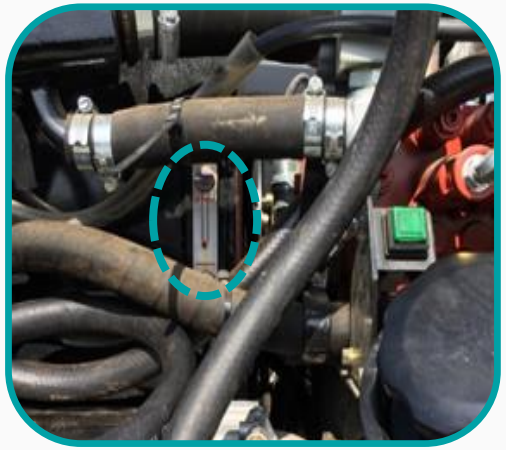
In addition, refueling hose is too short.

Hydraulic oil level check



KUBOTA KX080-4α

Little difficult to find hydraulic level checker



TAKEUCHI TB290

Good position

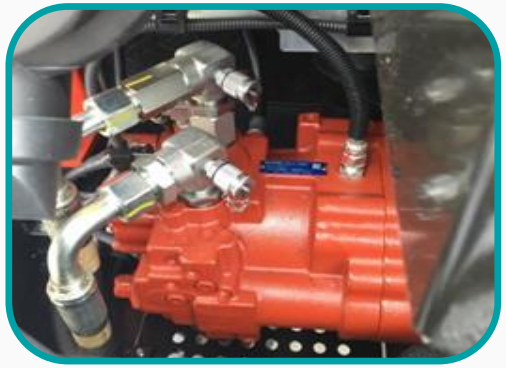
JCB 86C1

The best position

Hitachi ZX85

Difficult to find hydraulic level checker

Hydraulic test port (minimess test points)

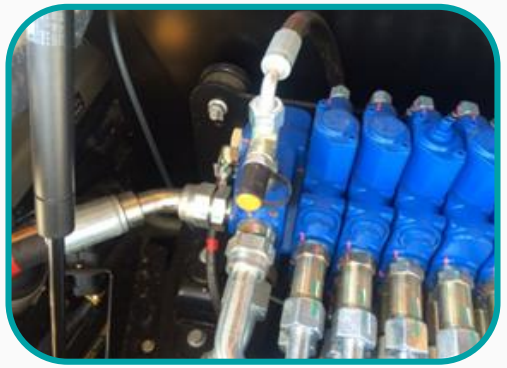


KUBOTA KX080-4α

Two minimess test points on the HYD pumps

TAKEUCHI TB290

No test port



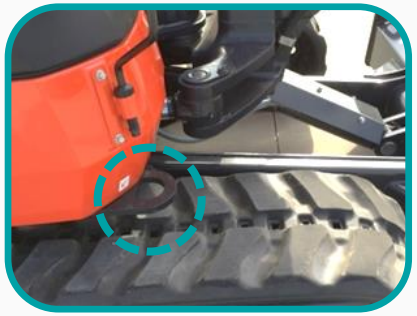
JCB 86C1

One minimess test point on the main control valve

Hitachi ZX85

No test port

Tie down point

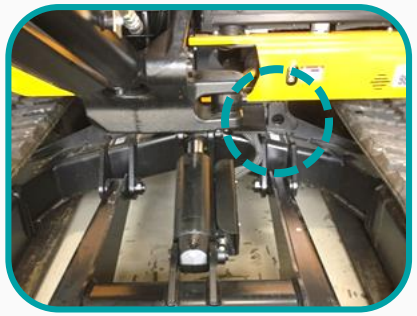


KUBOTA KX080-4α

The only one with also Tie down point on swivel frame.

TAKEUCHI TB290

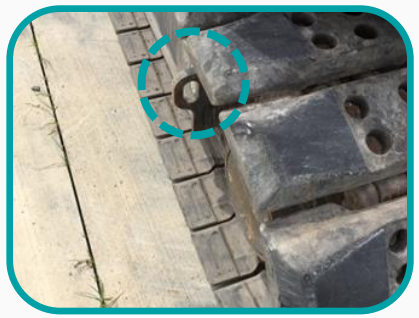
Tie down point in the lower part of the frame



JCB 86C1

Tie down point only in the internal lower part of the lower frame.

Very uncomfortable



Hitachi ZX85

Fuel inlet is located at high position.

In addition, refueling hose is too short.

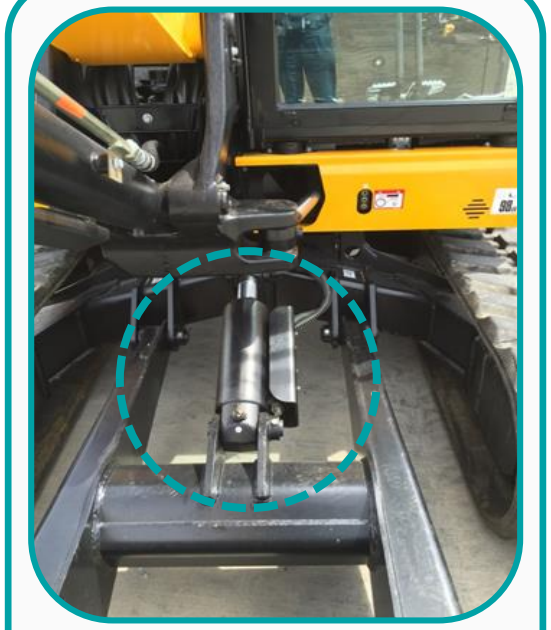
Dozer cylinder protection

KUBOTA KX080-4α

Full protection, cylinder and safety valve

TAKEUCHI TB290

Full protection, cylinder and safety valve



JCB 86C1

No cylinder protection.

Protection only for safety valve

Hitachi ZX85

Full protection, cylinder and safety valve

Cylinder blade tubes

KUBOTA KX080-4α

Cylinder blade tubes in two parts

replacement in case of breakage faster on site

TAKEUCHI TB290

Cylinder blade tubes in two parts

replacement in case of breakage faster on site

JCB 86C1

Cylinder blade tubes in two parts

replacement in case of breakage faster on site

Hitachi ZX85

Pipe directly connected to the swivel joint

More complicated disassembly

Ground clearance

Model name	KUBOTA KX080-4α	TAKEUCHI TB290 *(middle arm version)*	JCB 86C1 *(short arm version)*	Hitachi ZX85 *(pad crawler version)*
1 crawler – frame			200	
2 frame at 250 mm from crawler			245	
3 center of the frame	365	365	345	405

KX080-4α's:

- A under frame suitable for all types of terrain
- Some holes are present on under frame

Noise

Model name			KUBOTA KX080-4α	TAKEUCHI TB290	JCB 86C1	Hitachi ZX85
Noise level	Operator Dynamic	dB(A)	74,5	72	77,9	73
	Rating		△	○	×	○

KX080-4α's :

- noise level is not so good compared with some competitors

Note:
***Red character** = actually measured data*

○	Above average
△	In the average
×	Below average

Right window opening

KUBOTA KX080-4α

The window opens from both sides

TAKEUCHI TB290

The window opens from both sides

JCB 86C1

Rear window can not be opened

Hitachi ZX85

Window can not be opened

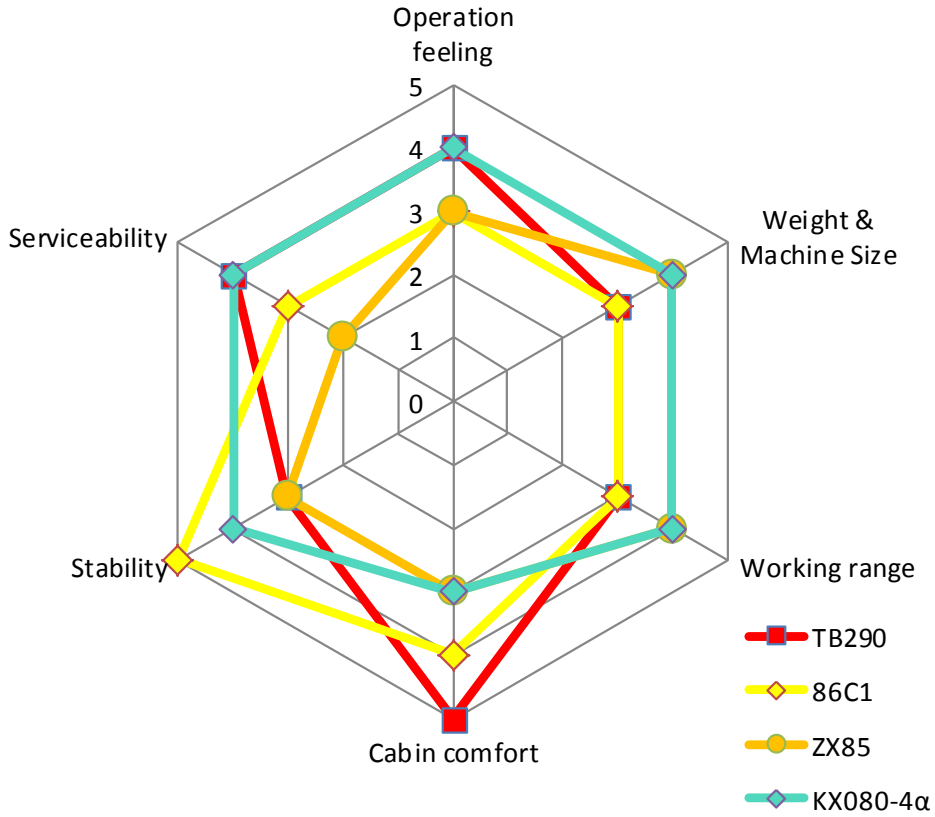
Pitch

The new KX080-4α, thanks to the new hydraulic system and the various improvements have:

- ✓ Better simultaneous operation:
  - ✓ with attachments
  - ✓ in travel with attachments
- ✓ High AUX flow in ECO mode
- ✓ Safety during transport thanks to tie-downs points
- ✓ Easy leveling thanks floating blade

Not forgetting the qualities that have made it the No. 1

- ✓ One of the largest cabins of category
- ✓ Perfect dimensions for transport
- ✓ Performance and maintenance at the top of his class
- ✓ The best TCO



Note:

- *86C1 short arm,*
- *TB290 middle arm*

For Earth, For Life

Kubota

Thank you for your attention!

Kubota